ROTUNDA

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Insects in the City

A Face from the Past

The ROM's Sèvres Vase

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ROTUNDA

the magazine of The Royal Ontario Museum

Volume 10, Number 1, Spring 1977

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Our Six-Legged Neighbours Outnumber Us

A full-grown Cecropia caterpillar seeks a firm twig support to spin the first silken strands of its overwintering cocoon. The adult moth is among the most awesome of city-dwelling insects (see page 24). Photo: W. Aubrey Crich

To our readers

We regret that, because of steadily increasing production costs, it has been necessary to increase the price of ROTUNDA to $1.50 per copy. This is the magazine's first price increase in four-and-a-half years.

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The Museum Comes to the Classroom

Riley Moynes

They tumbled excitedly into the room. "Are you from the Museum? Great! We're going there tomorrow! Have they got any mummies at the Museum?"

It's 10:30 a.m., at a school in Scarborough, and this Grade 5 class is greeting a Museum volunteer who works with the ROM's Education Department to provide a pre-visit introduction to the Museum's Egyptian collection.

The idea is not new; accepted educational theory has it that the more preparation one does for a particular event or endeavour, the greater the likelihood of success. It is a concept repeated over and over to neophyte teachers during their teacher-training programmes. But preparation for a Museum visit implies a knowledge of the Museum's collections, and in fact, very few people are on intimate terms with Hatshepsut's wall or with the mummy. Thus, we decided two years ago that given the need for preparation, and given the general lack of knowledge of our collections by teachers, the responsibility to initiate a pre-visit programme was ours.

The first step was to determine which collections might best lend themselves to such an undertaking. For our initial efforts we decided to choose popular galleries — ones which would be used often enough to justify the preparation time necessary. Since volunteers would undoubtedly be involved in the programme, the galleries should also be ones with which they would be familiar. Then, too, it was deemed important to deal with students with whom the volunteers would feel comfortable. To initiate our programme, then, we decided to concentrate our energies on elementary school students who were scheduled to visit the Egyptian gallery, one of the most popular in the Museum.

Dr. Millet of the Egyptian Department offered to assist us by providing authentic objects from the department's study collection, and he helped us to prepare a short description of the significance of each object which suggested how it fitted into the larger pattern of Egyptian life. Ron Miles, Assistant Head of the Education Department, undertook to coordinate the pre-visit project and spent a considerable amount of time in research on the objects which we chose. The enthusiasm of the Members' Committee was the third key component in this cooperative venture. Training of volunteers began in the fall of 1974, and the first visit was made in October of 1975. In the first year of the programme, from October 1975 to October 1976, forty-five classes were visited in twenty-four schools. The teacher evaluations have been embarrassingly complimentary — the major complaint is that the visits do not last long enough.

But no statistics can convey the impact of the pre-visit programme as well as a description of what takes place in the classroom itself. In one instance, we were warned of the challenge we faced. The teacher told us that his Grade 5 pupils, of varied ethnic backgrounds, knew little of the topic because a study of Egyptian civilization was, as he put it, "dry as dust" — there was no pun intended. It turned out that the teacher was right about his pupils if not about Egyptian history; for example, no one knew what hieroglyphics were.

The presentation started with a slide introduction to the ROM. Most of the photos showed objects in the galleries which the students would see during their visit: the pyramid model, a bronze "hair curler" and a razor blade, Hatshepsut's wall, and, of course, the "mummy room". Though we try to keep this part of the presentation to ten or twelve minutes, it generally elicits an explosion of questions from the students.

The next part of the programme is, we believe, truly unique. Though some other institutions provide slide pre-visit presentations, we also give the students an opportunity to handle original objects which may be three or four thousand years old. The class is divided into small groups that are asked to play detectives looking for clues. In this case, however, the clues will suggest not "who dunnit" but rather, "What was life like in Egypt thousands of years ago?" Each group names a "scribe" who is responsible for writing down information for each object examined on a "Student Archaeologist" worksheet. One set of questions asks what uses the students think the object may have had, and what its name might be; another question asks about the material the object is made of, and another asks the students what the object tells us of life in ancient Egypt. It might be added that ordinarily during this exercise the volunteer is praying mightily that nothing will be broken! Yet we have found that the vast majority of students seem to be very conscious of the need to be extremely careful.

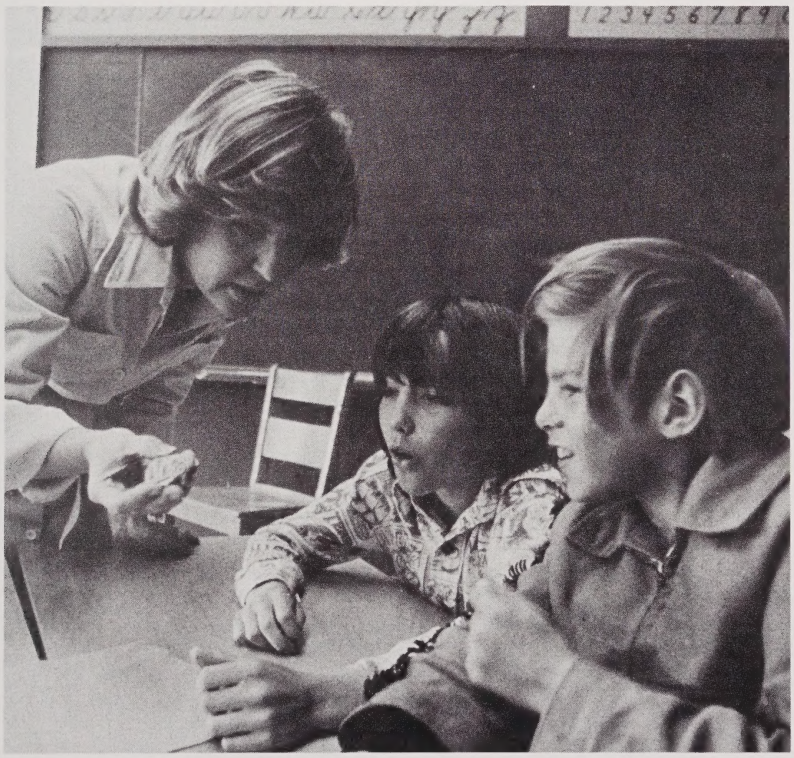
The third main part of the pre-visit presentation allows the students to compare their educated guesses with what they call the "real facts" presented by the volunteer. This part of the lesson usually illustrates the lively imaginations of today's students. One object, generally thought to have been some kind of knife, has a

shape which invariably brings the assertion that it *must* be a can opener. Students also show how much a part they are of the synthetic generation when they look at a shawabti figure made of faience, and declare authoritatively that it is made of plastic.

Though they may sometimes be superficial in attaching names or suggesting materials of manufacture, our experience has been that the students often excel when discussing what the presence of such objects tells us of life long ago. At first, students often assume that people who lived long ago and far away were automatically in some way "inferior" to us. Yet by the end of a session the consensus is usually the somewhat surprised admission, "Hey, those Egyptians were a lot like us." If we can encourage students to see the basic similarities between peoples and cultures, rather than the often superficial differences, we consider the visit to be successful.

If the volunteer can withdraw from the classroom leaving a forest of hands, we feel that the visit has achieved another of its goals: to stimulate interest in the topic and the upcoming visit. Our purpose is to raise more questions than we answer, to encourage study of the topic before the visit, and to create an atmosphere of eager expectation. All indications so far are that our goals are being achieved.

Where is this programme leading us? This year we have introduced a pre-visit programme for the Far Eastern Galleries, and we hope that in the not too distant future we may be able to offer a pre-visit programme to any class that chooses to take advantage of the opportunity. There would be significant mechanical difficulties to be overcome in planning, let alone operating, a programme this ambitious. Yet our experience, and the excitement of hundreds of school children, have proven it a goal worth striving for.



A Museum teaching volunteer gives these students a firsthand look at a bit of Egyptian history.

Riley Moynes is Head of Education Services at the ROM.

Opposite page: The jade mosaic mask discovered at Lamanai last year, after removal from the site and cleaning. The teeth and eyes are of pearlescent shell, and the pupils are obsidian.

Left: The "Lip" building, where the mask was discovered, near the end of the 1976 season. At this stage, the stair trench had reached a level well below the discovery site of the mask, which was near the base of the uppermost terrace.

A Face from the Past

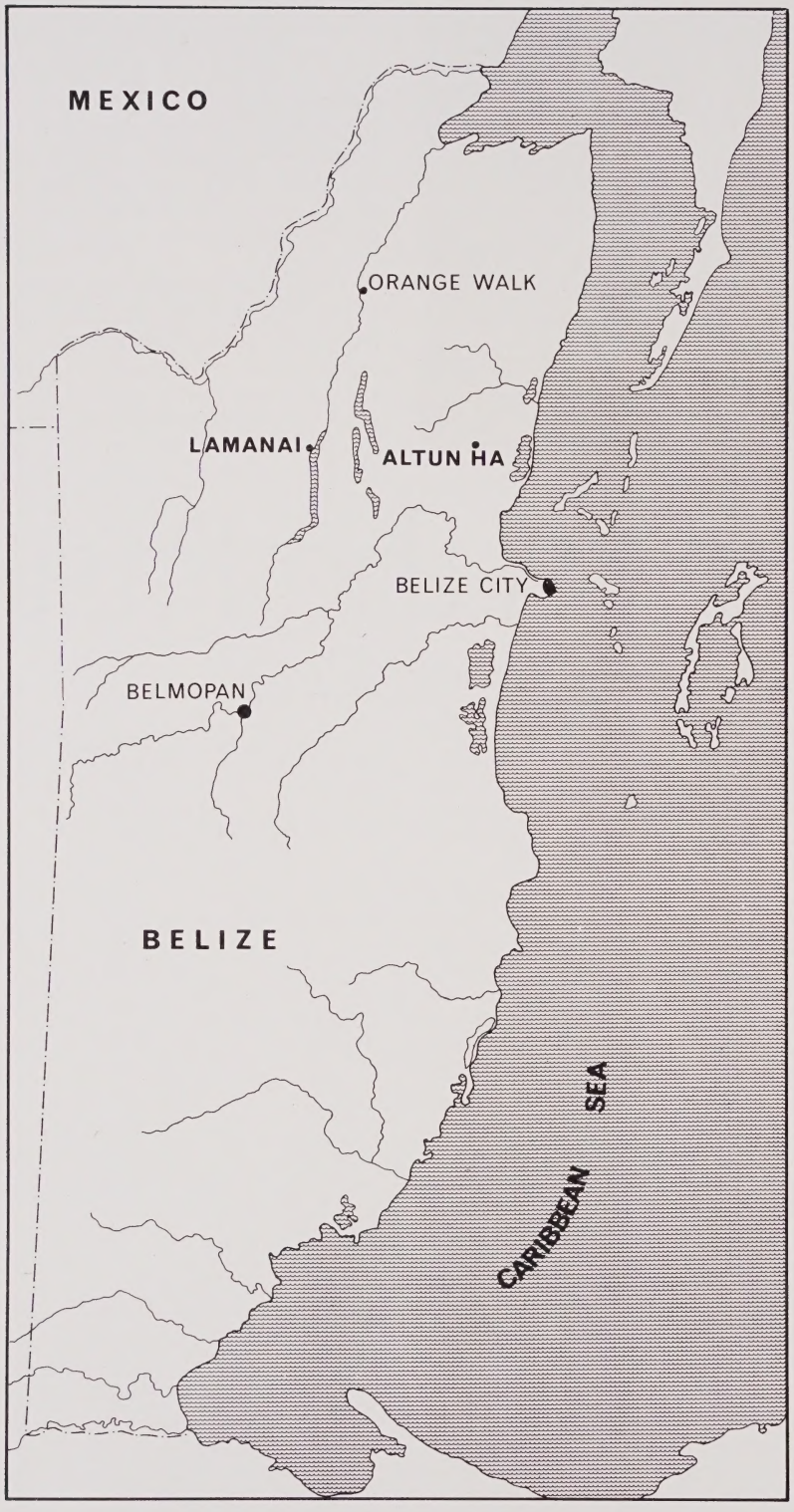
A Jade Mosaic Mask from Lamanai

David M. Pendergast

After the ROM's excavations at Altun Ha, Belize, came to an end in 1970, we turned our attention to the larger, and in some ways more complicated, site of Lamanai, just 40 km farther inland, where we began work in 1974. When I was considering the possibility of excavating at Lamanai, I knew only one thing about the site: it was the only Maya centre in the lowlands of Guatemala and Belize which boasted a Franciscan church. Built in about the 1570s, the church at Lamanai continued in use until 1641, when the Maya parishioners turned apostate, burned the wooden and thatch parts of the building, and fled westward. Obviously there must have been a considerable community at Lamanai in the 16th century, for no religious order constructs a church where there is no congregation. Hence it seemed likely that Lamanai had been occupied in the centuries following the fall of Classic Maya civilization around A.D. 900. If this proved to be so, Lamanai would be the first site in the Central Maya Lowlands to yield any significant amount of information on those intriguing Post-Classic times.

Our first two seasons of work produced results far beyond my expectations, showing that Lamanai was not just occupied during the Post-Classic, but was probably a centre of major political and economic importance in those centuries. Until 1976, much of our effort was concentrated on excavation of small buildings and the church itself (see "The Church in the Jungle", *Rotunda* Vol. 8, No. 2, pp. 32-40), but in the season just past we turned to one of the larger structures at the site, popularly known as "Lip". (This rather undignified designation for what I have on record as Structure N10-9 was bestowed by student mappers, in honour, if that is the word, of the government L.I.P. programme.)

Some of our struggles with Lip's twenty-metre-high, rather complicated mass of architecture have already been outlined in a ROM Archaeological Newsletter (No. 132, May 1976), but it was not until after that writing that we began trenching into the core of the building, a process that remained uncompleted at the season's end in July. The trenching was designed to give us information on early elements in the architectural sequence, but it has also brought to light some extremely interesting offerings, all of which include jade, that great Maya ceremonial wealth item. One of the offerings, the most striking and significant of the three recovered thus far, is the subject of this brief glimpse at the results of the third season of our eight-year programme at Lamanai.



By mid-season, we had carried out enough excavation on Lip to reveal a single primary structure, to which several additions of varying size and complexity had been made. At first glance, Lip does not appear markedly different from other Maya structures, with its series of terraces and large frontal stair. It is, however, outside the "standard" pattern in one major respect: it lacks a chambered masonry building at its summit. Presumably the level surface at the top of the structure once supported a pole and thatch building or some other type of impermanent construction in which ceremonies were carried out, but no evidence remains to support this assumption. What is clear is that the Lamanai architects came up with a novel means of adding a masonry building in later times. Cutting away a portion of the central stair, they placed a two-room structure athwart the sole route to the top of Lip, adding small side stairs at the building's back to provide access to the summit.

Once we had sorted out the sequence of this and later additions, we were in a position to begin examination of the heart of the structure. Such examination involves cutting trenches into the core of the building, in the hope that earlier construction may be exposed beneath the cleared area. In addition, there is always the possibility that the trenching will bring us to a burial or an offering which may contain materials helpful in dating the construction. For Lip, this possibility was a critical one, as Lamanai lies in an area previously almost unknown archaeologically, and the architectural style therefore provided no firm clues as to its time of construction. And so, in addition to other probing, we opened a large trench along the structure midline, where offerings are most likely to be found. Fortunately, in one sense at least, the totally ruined condition of all the stair below the two-room building allowed us to excavate without fear of damaging the façade.

Initial work within the rooms of the building, and in the area im-

With the bush removed, the Lip structure can be seen from the lagoon which borders Lamanai on the east.

mediately below and in front of the outer room, revealed the existence of two sets of stairs antedating the ruined outer one. It seemed at first that we might be able to clear one of these stairs and leave it intact for later use by visitors to the site, but as excavation progressed it became apparent that what nature had done to the outer stair was paralleled by what the ancient Maya had done to its predecessors. Unhappily, we could do no more than cut through the boulder-and-soil core of the outer stair until we reached the battered, shattered remains of the earlier construction, and then follow these bits and pieces of treads and risers downward toward the building base.

In the course of pursuing the fragmentary earlier stairs, we began to encounter both burials and offerings in the core we were sectioning. The burials, obviously interred as the outermost stair was being constructed, were in a condition hardly better than that of the stair itself. Bits of bone, eroded teeth, and areas of discoloured soil were all that marked the final resting places of two individuals, both adults, buried not far below the level of the front room floor. That they were not ordinary burials was evident from their honorific position, and also because each was accompanied by objects of jade. Unfortunately, neither the smashed mosaic object found with one burial nor the two beads found with the other provided any basis for dating the interments and the construction within which they lay. The same could be said of bits of jade, parts of one or more mosaic artifacts, which were scattered through the stair core, apparently as a sort of unconcentrated offering.

With further excavation in the stair, we came upon the first major offering, and luckily it proved to be one which could shed at least a bit of light on the time of construction. Just in front of a fragmentary riser of the later of the two largely demolished stairs, excavators noted several small pieces of jade lying close to one another. The men called me to the spot, and with a little removal of overlying dirt I could see that we had some sort of mosaic object that appeared to be largely intact. As so often happens, the hour was late, and the weather was threatening, and so we had no choice but to attempt to clear, record, and possibly remove the object that day. An evening rain would surely have dislodged the pieces of jade, leaving us with one of those jigsaw puzzles which would probably remain forever insoluble.

Working as rapidly as conditions would permit, I removed the soil from atop the group of pieces, and as I brushed and teased away the white earth it became clear that we had a mosaic of considerable size, lying face down. When I came to the central part of the group of jade pieces, a gleam of shell appeared, and in a moment two eyes, or rather their backs, stared out at the assembled group of Maya and Canadian spectators. Now we knew that the object was a mask, and when all the soil had been removed from the concave back of the mosaic, the full form of the face could be seen, with the nose a curious tiny trench at the centre. As most of the elements of the mosaic remained in their original positions, we had a good chance of recovering the mask virtually intact, if we could provide a new backing to replace the totally decayed original.

In the rapidly diminishing light which marks the quick transition from day to night in the tropics, we began to build a new back for the mask. Over the jades we poured a layer of melted wax, in which strips of cloth were then placed. Additional layers of wax and cloth followed, until we had a solid, if rather unattractive, new back, to which we could only hope that all the pieces of jade would adhere. Now that the mosaic was protected from the elements, we were free to place a cover over the area and leave the mask overnight, to allow the wax to harden completely. On the following day, some careful brushing and cutting, accompanied by the feeling of trepidation which always comes at the last, critical moment, brought the mask out of the ground with only minor dislodgement of pieces at the edges and around one eye.

As removed from its matrix, the mask is approximately 19 cm high and 13 cm wide. It is made up of nearly one hundred pieces of jade, almost all of them carefully shaped, but only those of the cheeks, nose, and mouth seem to have been specially formed for those spots. A number of pieces, about one-fifth of the total, were discovered out of their original positions during excavation. While the pieces which came away as the mask was lifted could be replaced without great difficulty in their wax sockets, those found out of place posed a

Opposite page: The mask as it looked in situ, *cleaned of dirt and ready for rebacking.*

Below: The Lip structure seen from the plaza on which it fronts, with the season's excavation just under way.

Right: The Lip structure, late in the season. The trench through the stair is in the area where a stump can be seen projecting from the face of the building, above and behind the workers.

Below: Jade mosaic mask from Tikal. Though more elaborate than the Lamanai specimen, it was constructed in the same manner, and is probably of similar date.

more serious problem. The mosaic may have extended around the sides of the original backing, and there may have been some mosaic-covered areas on the reverse as well. With the decay of the backing, which was probably of wood, and with flattening caused by the pressure of overlying soil and stone, the jades on the sides and back came to lie atop the remainder of the mosaic, their original positions forever lost. For the rest, however, placement of the mask face-down resulted in relatively little distortion of the arrangement of the pieces of jade and the shape of the obverse surface, so that the face as we see it now has very much the appearance it had centuries ago.

With a few exceptions, the jade of the mask, while generally well polished, is not of particularly high quality. As always in the Maya area, the term "jade" embraces materials which may have a very low jadeite content. Most of the jade in the mask is in fact a mixture of jadeite and albite, which has a less intense green colour than many of the elaborately carved pendants and other major pieces. But for the Maya, it was not mineralogy that mattered. Any stone with even a tinge of green was of ceremonial importance, whether carved into a pendant or shaped into the elements of a mosaic. To the value inherent in the green colour was added the labour of designing the mosaic and shaping the individual pieces of jade, and, above all, the ceremonial significance of the mask. Like many of the carved pendants, the mask probably represents some figure from the serried ranks of Maya deities. Its importance is indicated by the fact that it was the sole object in an offering, whereas most offerings were composed of several artifacts.

For the portions of the face not easily depicted in jade, the artisans employed other materials. Teeth are represented by two sections of pearlescent shell with incised vertical lines, while the whites of the eyes are made of pieces of the same shell, and the pupils are obsidian discs. The overall effect is not un-

like that of a portrait; but we can be almost certain that the mask was not intended as a representation of an actual individual. The face is undeniably male, but neither the high-bridged nose (a characteristic of all Maya depictions of human physiognomy) nor any other feature identifies the god portrayed. The appearance of youth, or rather, the absence of any signs of age, may link the Lamanai mask with specimens from Tikal which are thought to represent the Maize God or the Sun God in his youthful aspect (H. Moholy-Nagy, "Mosaic Figures from Tikal", *Archaeology* Vol. 19, no. 2, pp. 84-89, 1966). The fertility symbolized by the green of jade makes either of these identifications plausible, though the ground on which we are treading here is uncertain at best.

While jade mosaic objects are not uncommon in the ancient Maya inventory of artifacts, most of the recorded specimens are discs or plaques, probably intended for use as pendants or ear ornaments by the priest-rulers of Maya society. Some masks may have gone unrecognized because they were recovered as piles of jumbled pieces that defied all attempts at reconstruction, but it is clear that the total number of such objects was never great. Among the known specimens are some similar in size to that recovered at Altun Ha ("Jigsaw in Jade", *Rotunda* Vol. 3, No. 2, pp. 38-42), and there are also a very few depictions of the entire human figure, such as specimens from Tikal. The latter are free-standing, and may have been altarpieces, while objects like the Altun Ha specimen probably served the same purpose as mosaic discs and plaques.

Of the larger masks, a few of which approach or exceed lifesize, no two are alike. Some, like the famous mask from the Ruz Tomb at Palenque, are unadorned, while others, including the Lamanai specimen and one from Tikal, have headdresses ranging from simple to highly complex. Despite the variety in form and features, it is obvious that the larger masks, like their smaller counterparts, were ornaments, not meant to be worn on the face. In some instances, as in the Lamanai specimen, the size is too small to permit use as a true mask, and all lack the eye-holes and other apertures necessary if the wearer was not to make a quicker trip than intended down some flight of temple steps.

As rarity contributes to the interest value of the Lamanai mask, so also does the possibility that it can serve as a basis for dating the construction in which it was found. With the notable exception of the Palenque mask, which dates from about A.D. 700, all datable mosaic masks and representations of the human figure from the Central Maya Lowlands appear to fall between A.D. 400 and A.D. 550, in the latter part of the Early Classic period. There is always the possibility that the mosaics, like many pendants and other objects of jade, had acquired the status of heirlooms before they were deposited as offerings or grave goods, but data from Tikal suggest that the century-and-a-half span in the Early Classic covers time of manufacture as well as interment. A date within this period for the stair in which the Lamanai mask was found fits with what we know about the age of later elements in the structure; sherd content from terraces built after the stair indicates a date in the 7th century A.D. or later, and another offering from a context contemporaneous with the stair is probably of Early Classic date.

While the mask now reposes in Belize, we hope eventually to be able to bring it to the ROM, where the Conservation Department staff can be saddled with the task of replacing dislodged pieces and constructing a permanent new backing, making the adjustments necessary to compensate for the slight distortion which occurred as the original backing disintegrated. When this work is done, we shall be better able to appreciate fully a rare and truly striking example of the aesthetic and technical achievements of the jadeworker in ancient Maya society.

David Pendergast joined the ROM in 1968 and is Curator (Central America) in the Office of the Chief Archaeologist. Since 1964 he has been Field Director of the ROM's work in Belize, and has recently completed seven years of excavation at the site of Altun Ha. At present he is directing the fourth season of excavations at Lamanai, where the ROM expects to continue work through at least 1981.

A Present for a Prince

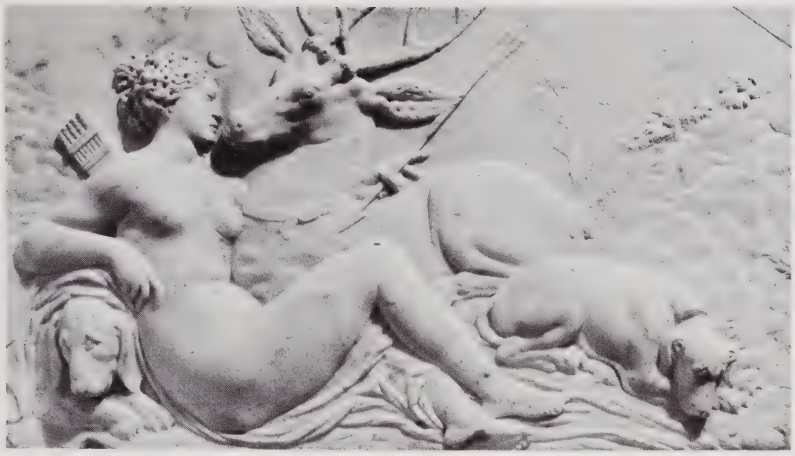
The ROM's Sèvres Vase

Jean Bacso

The second half of the 19th century was the period of the great international exhibitions, the world's show windows for national achievements in art, industry, and agriculture. Among the major exhibitors were the large European ceramic factories. In addition to producing ordinary serviceable wares, they vied with one another to create objects calculated to astound the public by their size and virtuosity.

Foremost among the porcelain factories was Sèvres, whose support from the state encouraged the manufacture of objects which made appropriately impressive exhibition pieces or presentation gifts for statesmen and royalty. The Sèvres factory had been responsible for an important technical advance that made such large-scale manufacture feasible, the invention of an improved kiln that equalized heat distribution. By 1783, it was possible for the Sèvres factory to carry out Louis XVI's commission for a 6′6″ high vase with bronze mounts, of so-called "Medici" form, now in the Louvre. Essential also to the successful manufacture of a vase of this size, even though it was made in several sections, was the use of hard paste porcelain, which had been available at Sèvres since 1772.

With no major technical challenges remaining by the 19th century, the industrialized and especially the state-supported factories of Europe devoted much energy to the production of ostentatious



Opposite page: The ROM's Sèvres vase, in hard paste porcelain with silver-plated and gilt bronze mounts. The vase was a presentation gift to the Prince Imperial, son of Napoleon III, on the occasion of his baptism in 1856.

Left: Marble relief of Diana caressing a stag. The scene shows a variation of the classical myth in which Actaeon was changed into a stag by Diana after observing her bathing, and was torn to pieces by his own dogs. French, 16th century, First School of Fontainebleau. Musée de Cluny, Paris.

vases of great size. For his own use and for gifts, Napoleon commissioned Sèvres to make richly gilded vases bearing large panels painted with actual or allegorical scenes commemorating events in his career. Such pictorial panels had the appearance of oil paintings transferred to porcelain. Napoleonic themes, of course, disappeared after his downfall, but ensuing regimes inherited the taste for grandiose vases.

In 1879 the English journalist George Sala noted, "In monumental porcelain, Sèvres, it should be as cheerfully admitted, beats us hollow. We could produce, it may be, vases fifteen feet high, decorated with elaborately painted pictures of the Apotheosis of Psyche or the Battle of Arbela, but who would purchase those elaborate works of art when they were completed? The 'fabrique de Sèvres' is supported by the French Government, and is one of the national glories of France. The prodigious pieces produced at Sèvres are designed for the embellishment of the National Palaces, or to serve as presents to foreign Sovereigns." (*Paris Herself Again*, vol. 1, p. 194.)

One of the vases of the Sèvres "presentation" style, though of more modest proportions than many, has been in the Royal Ontario Museum since it was given in 1926 by Sir Robert Mond. He wrote to Dr. Currelly, the director of the Royal Ontario Museum of Archaeology, that it was of the "right dimensions for a big museum". It is 41½" (105 cm) high, and is made of five sections of hard paste porcelain separated by narrow gilt bronze bands, with silver-plated and gilt bronze handle mounts. The painted decoration, all in pale underglaze blue except for a few pale green details and borders, is signed and dated "Regnier 54". Like many 19th-century objects viewed with 20th-century eyes, the vase appears ponderous and disharmonious. The proportions are unbalanced; the lower body sags, the flaring neck is too large, and the jutting handles add to the complicated profile. The delicately shaded painting is perfectly executed, but exudes a certain mannered languor that is intensified by the overall use of the monochrome pastel blue. But these defects should not prevent us from recognizing many intriguing elements of the vase's decoration, and they were probably not perceived at the 1855 Paris Exhibition where the vase was part of the Sèvres display. Then, the typical lavish praise of Sèvres was bestowed in a review by London's *Art Journal* of 1855: "In the very highest class of ceramic art, the display of the Imperial Manufactory of Sèvres of course takes the lead, and fairly overwhelms the visitor with the variety and extraordinary character of its contributions."

In a nostalgic admiration of the past, the 19th century experienced the fluctuations of many stylistic revivals. Sèvres designers in the period of Napoleon III, who reigned as Emperor from 1852 to 1870, favoured the 16th-century French Renaissance style, as well as various 18th-century styles. The ROM's vase specifically pays homage to a man, Jean Goujon, and a city, Paris. In the middle decades of the 16th century Jean Goujon was France's most talented sculptor, one of the artists who helped create an original and national French style bred from the Italian Renaissance. Goujon's delicate and elegant classical style, which matured in Paris where he worked for King Henri II, came to be imitated elsewhere in France. The allusions to Goujon are found in the monogram JG and his idealized profile head on opposite sides of the vase's neck, and in a copy of a work once thought to have been done by him. This large scene of Diana with a stag and two hounds is enclosed by a cutwork scrolling frame derived from mid-16th-century transformations of classical scrolls. The Diana motif is copied closely from a marble relief, now in the Cluny Museum, long believed to have been carved by Goujon but now attributed to an unknown carver of the First School of Fontainebleau.

A cartouche on the opposite side encloses the coat-of-arms of the city of Paris, a three-masted ship in full sail on a ground marked with fleur-de-lis, all below a mural crown which sometimes adorns the arms of towns. Flanking the cartouche are two nude demi-figures.

The opposite side of the ROM's vase shows the idealized profile head of Jean Goujon on the neck, and the various 16th-century classical motifs arranged in horizontal bands. Two water nymphs, personifying the Seine, flank the arms of the city of Paris.

These nymphs symbolize Water, in this case the Seine, and hold their attributes, a fish and a paddle bearing a dolphin, against a background of bullrushes and tendrils. Just as the two nymphs enclose the armorial of Paris, the Seine too flows around and encloses the nucleus of Paris, the Ile de la Cité.

The rest of the vase is painted with standard 16th-century ornamental motifs, including flower heads with scrolling stems, clusters of fruit and flowers, truncated figures terminating in scrolls, and formalized borders of foliage arranged in many horizontal bands in a characteristic 19th-century manner. Although the general flavour of the ornament is 16th-century, there seems to be no specific connection between the Diana composition and the coat-of-arms of Paris, the two main decorative motifs, but it must be remembered that mid-19th-century designers borrowed and mixed motifs with alacrity.

On each side of the vase are porcelain "handles" in the form of a goat's horns, with a winged figure of Peace standing between the horns, one foot on a globe and each upraised hand carrying a laurel wreath. The Peace figures are made of silver-plated bronze and the gilt plaques beneath their feet bear a representation of a salamander, the personal device of Francois I, predecessor of Henri II. On the back of each figure is the trade-mark of Charles Christofle, whose silversmithing firm was the first in France to use the recently patented technique of electro-plating. Christofle specialized at this period in "orfeverie d'art", including elaborate mounts for porcelain, and had achieved a fashionable reputation with his monumental silver centrepiece ordered by Napoleon III for the Tuileries Palace.

By 1855 there were about two hundred vase forms at Sèvres. The ROM's vase was one of three large vases of the form known as "Mansard", which were shown at the 1855 Universal Exhibition in Paris. The man responsible for the painted decoration on the vase was Joseph-Ferdinand Regnier, who was employed by the Sèvres factory for thirty-four years and spent a full year on the decoration of this piece. The designer of the decoration was Jules Dieterle, chief artist at the factory from 1840-52 and art director from 1852-55. After the Paris exhibition of 1855 the Sèvres factory gave the vase as a presentation gift on the occasion of the baptism of the Prince Imperial, son of Napoleon III, in 1856. Its value was listed as 14,000 francs.

The Prince Imperial would certainly have enjoyed a christening present of a simple rattle much more than this large vase, although undoubtedly the adults at the ceremonial event were duly impressed with its appropriate osten-

Detail of the handle in the form of a silver-plated bronze Peace figure between porcelain horns decked with gilt bronze ribbons.

Jean Bacso joined the ROM's European Department in 1965 after receiving her B.A. in Fine Art from the University of Toronto and spending two years in India with CUSO. She deals mainly with English ceramics, glass, silver, furniture, and clocks and watches. She has published research on 19th-century Toronto potters and is an amateur potter herself.

tatiousness. The presentation of monumental pieces of porcelain or silver to notable public figures was characteristic of the taste of the greater part of the 19th century. Today more modest tokens of esteem are favoured: the practical gold watch or pen, or an Eskimo sculpture of aesthetic simplicity.

After Napoleon III was defeated by Prussia in 1870 he was deposed; his desires to amass glory for France and to assure a dynasty for himself were now both dashed. The Prince, Eugène Louis Jean Joseph, was only fourteen when his father's empire fell and he went with his mother to England where they were later joined by Napoleon, who died there in 1873. Eugène went to military school in England and volunteered for service in Zululand. There in 1879 he was killed in an ambush, thus ending any possible hope of renewing Napoleonic political fortunes in France.

Despite war and revolution the Prince's christening present somehow survived, but its whereabouts between the baptismal presentation in 1865 and its appearance here in 1926 is unknown. Sir Robert Mond, the man who donated the vase to the ROM, unfortunately did not mention where it had been acquired, noting only that he had just recently found it.

In reaction to the many ill-conceived and ponderous eruptions of design which occurred in the period which we conveniently call Victorian, the 20th century has long found it fashionable to ignore or decry most artistic endeavours of that time. Today, however, we are able to value such an impressive, self-conscious vase as a survivor reflecting eclectic tastes and extravagant customs which have themselves faded into history.

The author is grateful to Mme T. Preaud, Archiviste, Manufacture de Sèvres, for sending her pertinent information about the ROM's vase.

Scenes from Egyptian Life

Three Stained Glass Windows by Henry Holiday

Alice Hamilton and K. Corey Keeble

In the building of the Faculty of Food Sciences at the corner of Bloor Street and University Avenue in Toronto is a set of three very fine stained glass windows. They hold a commanding position above the marble staircase and commemorate Eliza Phelps Massey and Lillian Massey Treble. Both the Masseys and the Trebles were patrons of the arts. Stained glass, in particular, was an art that gave them constant pleasure both in their homes and their churches, and in their university. Mrs. Treble arranged for these windows to be given to the "Household Science Building" just before her death.

The three windows, which depict the domestic arts of ancient Egypt, are the work of Henry Holiday (1839-1927), artist and scholar of London, England. There are only two other windows by Holiday in Canada: one is in the Hospital for Sick Children in Toronto, while the other, a magnificent rose window, is at the University of Winnipeg.

Holiday's interest in ancient Egypt dated from his boyhood; and when, in 1896, he was asked to design a memorial window to General Lee in Richmond, Virginia, he chose the subject of Moses leaving the Court of Pharaoh to suffer affliction with his own people.

Opposite page: The centre window, showing women weaving cloth and spinning wool.

Below: Detail from the left window, showing women grinding flour.

The right window suggests a life of severe toil, with its depiction of men and women beating flax and carrying the bright bales of cloth to the storage chests.

Seeking information, he visited the famous archaeologist W.M. Flinders Petrie, Edwards Professor of Egyptology at University College in London, who supplied him with the manuscript and notes of a book on Egyptian costume on which he was then engaged. It was this wealth of information that formed the basis of Holiday's detailed knowledge of Egyptian costume and ornament.

With his interest in ancient Egypt thus stimulated, Holiday continued his studies of Egyptian history, architecture, and hieroglyphs. In 1902 he began to study Arabic with Mrs. Jessie Mothersole; two years later he was sufficiently skilled to be able to write his diary in that language.

It was also in 1902 that Charles Trick Currelly, who was later to become the first director of the Royal Ontario Museum of Archaeology, left Canada for England. His interest in Egypt soon brought about a meeting with Petrie, who engaged Currelly to work for him, thus introducing him to a circle which included Holiday and also Holman Hunt. As a result of his friendship with Currelly, Holiday was left with "a strange and interesting sense of being more intimate with the Nile Valley than with any other part of the world I had known".

The Faculty of Food Sciences building in Toronto was begun in 1908, and the question of a stained glass window for the building was raised two years later by Currelly, who was then in London. Lillian Massey Treble, the donor of the windows when they were completed some years later, was the wife of Currelly's first cousin, John Treble.

There was no debate about the subject of the windows in Toronto: the building itself dictated that it should be the domestic arts. It was the treatment, the style, that was in question. Much of Holiday's work at the time was concerned with Greek subjects, and Currelly himself had said that the windows should depict "Greek household work". Mrs. Treble wrote to Currelly in 1915, "I trust I have not made a mistake in choosing the

Greek design. When will the window be completed?"

Already in 1913, however, Holiday had been strongly inclined towards an Egyptian treatment. In a letter to Currelly he had written:

"The subject of your letter is very interesting. The position of the windows is as you say fine which makes it an attractive piece of work, not the less so that you propose classical subjects, for which as you know, I have fairly well qualified myself.

"I would venture on a suggestion before you commit yourselves to these. You will, of course well understand that the fact of a building being of a classical style does not necessarily involve the exclusion of all but Greek subjects, (a limitation which would only apply to a part of the Museum devoted to classic art and remains) and two considerations would lead me to suggest Egyptian domestic scenes. 1) If we are to go back to the past for picturesque and interesting presentment of domestic work it would seem reasonable to go to the earliest civilized examples. 2) The Greeks were not in the habit of painting pictures of all their occupations as were the Egyptians, so that Egypt would supply us with far more abundant authority for our subjects. I might add a third reason that the realization of Egyptian scenes is far less common than Greek.

"But you will understand that these are merely suggestions for your consideration. The Greek subjects would be delightful to do, I should work at them con amore and would try to make them delightful to look at.

"Miss Jessie Mothersole has suggested some Greek subjects in case you think special themes would be better than general representations. She supposes the work would be divided into needlework, cleaning, and cooking. For the first 'Penelope', & (I would add), not her suitors, but her maidens spinning yarn. For *cleaning* 'Nausiccia & her maidens washing their clothes in the river'. For *cooking* she suggests with some diffidence 'Tantalus cooking his son Pelops for the gods', or 'the Daughters of Peleas boiling their father'.

"I have ventured to hint that perhaps the boiling of fathers may not form a part of the general curriculum."

In the end it was the domestic arts of ancient Egypt that formed the subject of the windows in Toronto. Besides the reasons given in his letter, there were others in Holiday's mind. He had refused to draw the corsetted women and trousered men of the Victorian and Edwardian eras, feeling that they had deliberately crushed all beauty from their daily lives. He preferred to draw Egyptians in the full, sensuous splendour of their varied skins, firm limbs, flowing dress or draped loin cloths, and magnificent jewellery. The rich life of ancient Egypt was being revealed by archaeologists like Petrie and Currelly. It was the grace of these past splendours that Holiday wished to disclose, through art, as a present possibility.

Holiday's composition is vigorous and detailed, exact and interesting. In the left panel eight Egyptians are at work preparing food; two women are grinding flour, a third is carrying a bowl of meal on her head, a man is kneading bread, and two others are roasting a duck and a leg of lamb. In the central panel, three women are engaged in weaving cloth. Below them three women are spinning wool, their baskets of fleece beside their feet. In the right-hand panel, eight men and women are engaged in beating flax and in carrying the bright bales of cloth to the storage chests. Severe toil is suggested in this window, contrasting a life of heavy burden with the joyous sun-filled world of the women who spun and wove the cloth.

In choosing his Egyptian theme, Holiday was convinced that he could portray the true embellishment of human life as he had glimpsed it in the art of ancient Egypt. Costume could be shown as ornament to the human form. Flesh could be painted in a variety of colours, dark giving interest to pale skin, by contrast. Clear light could be suggested by brilliant colours in vegetation, in cloth, in wall-paintings. Composition could be treated naturally, three levels of life being suggested at one time in the windows, by the use of a staircase linking upper to lower floors. Holiday knew that by using an Egyptian subject he could show radiance, grace, and joy in work. The domestic arts would indeed become arts for the eyes of the young to view.

Dr. Alice Hamilton, a Professor of English at the University of Winnipeg, specializes in 14th- and 15th-century English literature and is a noted Chaucer scholar. She has published numerous articles on mediaeval and 19th-century stained glass, and is the author of a book on stained glass in Manitoba. Corey Keeble is Assistant Curator in the ROM's European Department and, with Dr. Hamilton, is engaged in further research on stained glass in Canada.

The Growing Collections

The generosity of friends, near and far, contributes much to the Museum's continued growth and development. Mr. Frank D. Lee of Victoria, B.C., has donated two Moghul manuscript illustrations in memory of his wife Winifred Alice Jane Lee, who was a graduate of Victoria College at the University of Toronto.

It is perhaps little known that the Far Eastern Department includes the Indian sub-continent within its sphere of responsibility. In recent years it has made an effort to acquire Indian miniature paintings, but mainly of the Rajput and Pahari traditions. The gift of two leaves from a *Bāburnāma* (History of the Moghul Emperor Bābur) dated to ca. 1590 adds an important dimension to the Museum's holdings of Islamic works. One leaf shows Bābur receiving Jahāngīr Mīrzā in the bath at Akhsi, and the other shows Bābur receiving the notables of Samarqand after his second capture of that city. Both were exhibited at the British Museum in the exhibition "Paintings from the Muslim Courts of India" during the summer of 1976. Other leaves from the same manuscript may be found in the Pierpont Morgan Library of New York (two), the Cleveland Museum of Art (one), the Bibliothèque Nationale in Paris (one), and the British Library (the bulk of the MS.).

H.Y.S.

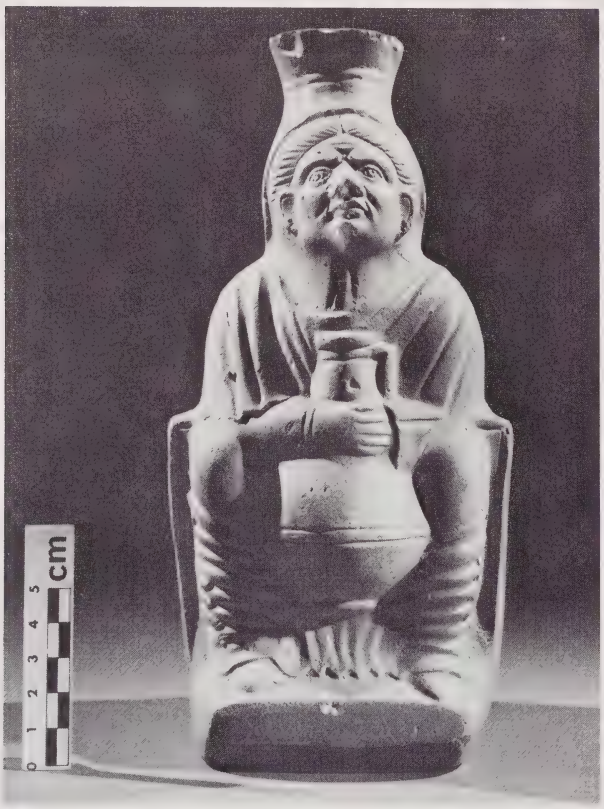
Some of the world's rarest and most beautiful sea shells have recently been acquired by the Department of Invertebrate Palaeontology for use in one of the displays planned for the gallery. Most were included in a fine collection of sea shells donated to the Museum by Mr. John A. Watson of Toronto. The prize of this collection is the Golden Cowrie, *Cypraea aurantium* (left). It is a particularly fine specimen, measuring 9.5 cm long. A fine specimen of the most famous of all sea shells, the "Glory of the Sea", *Conus gloriamaris*, was also recently purchased. It is 9 cm long.

D.H.C.

A pair of figurines recently given to the European Department adds considerably to the collection of European porcelain sculpture in the white. These are commanding figures in the "Art Deco" or "Style Moderne" style, the tallest being 46.5 cm. They were produced by the Rosenthal factory at Selb, Bavaria, about 1925, and bear the signature of the sculptor Gerhard Schliepstein (b. 1886). Schliepstein designed models for both Rosenthal and the State Porcelain Factory in Berlin. References to his work appear in German art journals of the 1920s. The Rosenthal factory is well known as a leader in style during this century. It is extremely fortunate that such fine examples are the first from this factory to enter the Museum collection.

The figurines are part of a gift from Patron Member Mrs. Saul A. Silverman, who has contributed many fine 20th-century items to both the Textile and the European departments. The present gift includes decorative glass and ceramics, mostly dating from about 1930, and an Art Deco pedestal table by the Parisian cabinetmaker, Jules Emile Leleu, ca. 1925.

C.P.K.



The Canadiana Department has recently added to its comprehensive collection of early Niagara Falls views two very handsome watercolours by Charles Ramus Forrest. The pictures were purchased through a grant from the Macdonald-Stewart Foundation of Montreal. Lt. Col. Forrest was Aide-de-Camp to the Earl of Dalhousie, and accompanied him on official tours of Upper Canada from 1821 to 1823. Forrest's dramatic stylization of landscape subjects renders them particularly fresh and striking. His work was well regarded during his lifetime, and several of his West Indian views were published earlier, in the 1780s, as aquatint engravings.

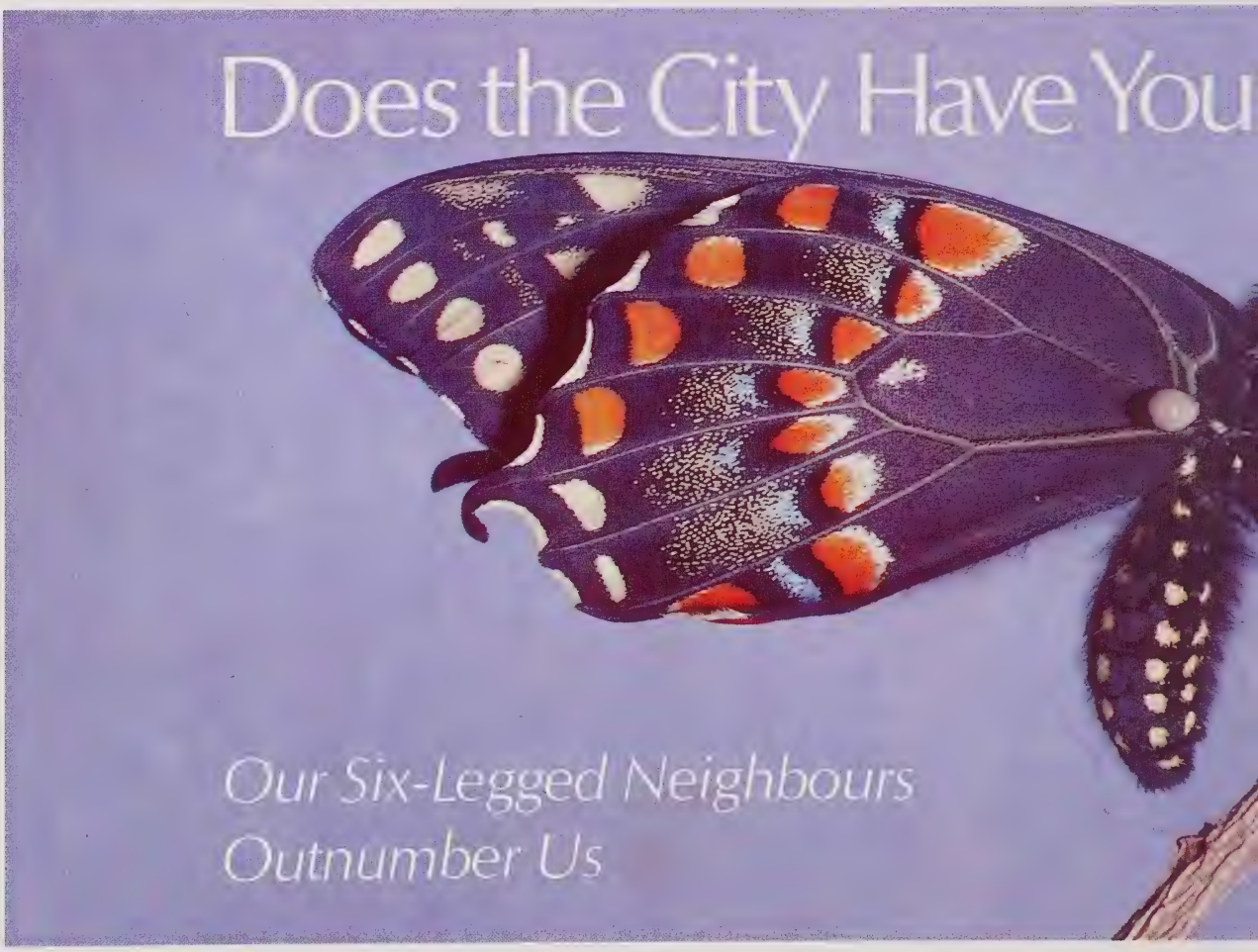
M.A.

The Greek and Roman Department has acquired a jug in the form of a drunken old woman (976.167.3). The motif — no doubt chosen to match the contents — is a free adaptation of a sculpture created by the Greek artist Myron of Thebes (fl. ca. 200 B.C.), which was well known in Roman times through copies. This jug dates from a little after A.D. 200, and bears the signature of Augendus, a lamp-maker who worked in North Africa. The "armchair" in which the woman sits is typically Roman, while the wine-jug which she clutches is Hellenistic in shape.

J.H.

Since 1970 the Textile Department has been building a collection of Central Asian costume and textiles in an effort to preserve some of the traditional culture of this area, which is undergoing rapid transformation. The ethnographical survivals of ancient garment types are important to the study of the history of costume. This area is particularly important in that it lies between eastern and western Asia and two general costume traditions. One of the more outstanding recent purchases is this man's silk velvet coat from Soviet Turkmenistan, acquired in Afghanistan. The pattern is created by tie dyeing and pile warp before it is woven, and is similar to the *ikat*-patterned plain silks used throughout this area for festive garb.

J.E.V.


Does the City Have You
Our Six-Legged Neighbours
Outnumber Us

Left: The Black Swallowtail caterpillar is richly coloured but difficult to see amidst the leaves of its favourite foodplants, wild parsnip or wild carrot. Below, the breathtaking adult Black Swallowtail (shown recently hatched from the chrysalis) is easily recognized as it visits flowers of Queen Anne's Lace in almost any vacant lot. (Photos: Walter Plath)

Right: Nowhere an abundant species, the delicate Bronze Copper can be found on the landfill site at the foot of Leslie Street in Toronto. (Photo: Walter Plath)

This is the city.

There are two million stories out there — two million lives lived out between walls of concrete, glass, and steel. Watching one of them one warm June night was an agent for ABC Investigation on surveillance duty. As he stood inconspicuously under a tree on a street corner, he was unaware that this would be one of the most alarming assignments of his career.

Without warning it happened. A great flopping shape obliterated the street light again and again. It swooped, batting against his cheek and neck with warm feathery wings. He was under attack! He ran sweating, his footfalls ringing hollow against the sidewalk. Was it following him?

Not until he was safe inside a phone booth with the door wedged shut did he peer back along the silent street, relieved to see he was now alone. His breath still came in short gasps, his heart still pounded, and his shirt clung wetly to his back.

Late next morning when the safe light of day coaxed his curiosity to overcome his dread, the detective phoned the Royal Ontario Museum to find out what had attacked him. Sheepish and somewhat chagrined, he learned that he had become one of the few people to have seen a common Toronto insect, the giant Cecropia silk-worm moth, going about its normal activities. "Imagine that. A moth as big as a bird. This city is hardly safe for the average private-eye. I wonder what Mannix would have done?"

Dramatized? Perhaps. But it really happened. I know because I took the call, one of the five hundred or so questions our department receives every year, mostly about insects that live in the city.

Just how common is the Cecropia in Toronto? One housewife, who lives on a tree-lined residential street only a few blocks from downtown skyscrapers, thinks the giant reddish-brown moth is a pretty common insect indeed. Early one morning a couple of years ago, she found a female Cecropia moth clinging to the screening of her back porch. She kept the creature in a large box for a day or two and watched it lay hundreds of small oval eggs on the cardboard. After enquiring at the Museum about how to raise these, she spent the next month or two nurturing a fine crop of bright green, knobbed and spiny caterpillars on quantities of lilac leaves picked, washed, and offered fresh to her charges each morning.

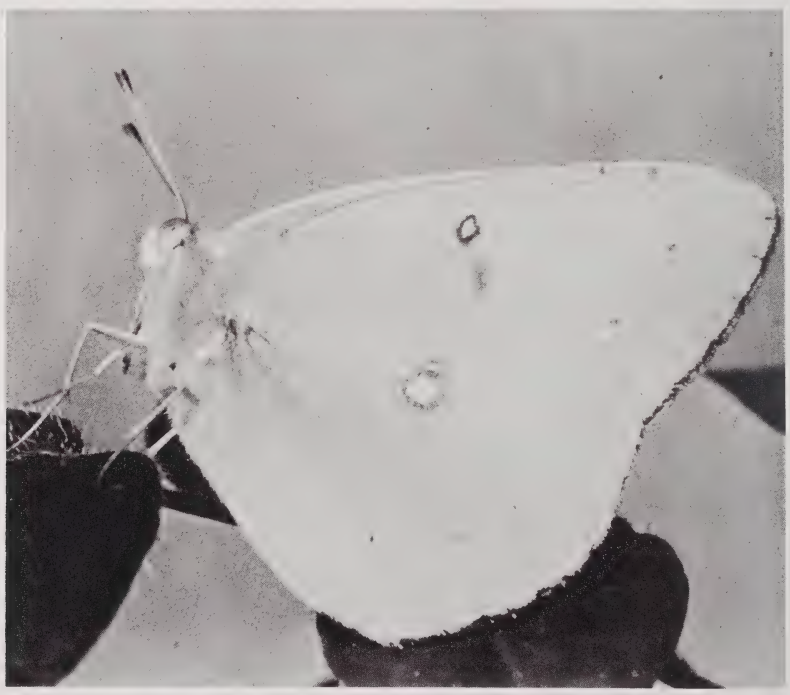
By mid-August when the caterpillars had grown up to four inches long and as fat around as a man's thumb, each began to spin a three-inch-long, reddish-brown, spindle-shaped cocoon on a twig placed in the terrarium. Inside, each one entered the mummy-like pupa stage to spend the winter. The cocoons were kept on the screened porch throughout the cold weather, and in early June their protectress began to watch them eagerly for the first signs of hatching. The first of the great moths to emerge (the wing span may reach five inches) was a female, easily recognized by its narrow, comb-like antennae.

Our amateur urban entomologist tried an experiment with this individual, placing it outside on the lawn at night in a screened cage. The female moth, in the age-old ritual of her species, clung to the side of the cage and wafted a seductive perfume into the night air. This mating scent or pheromone was sensed as far as a mile or more away by male Cecropias that had recently hatched in complete freedom. Drawn instinctively and irresistibly by the perfume, the males congregated around the caged female, and before the night was over, seventeen of the immense bat-like creatures with broad feathery antennae had been counted. Our caller eventually released all of the Cecropias she had reared to populate the surrounding trees with a new season's generation of caterpillars.

The Cecropia moth is one of the city's most spectacular insects, although it is seldom seen because of its late-night habits. But there are thousands of other species of six-legged creatures that thrive in the heart even of Canada's largest urban centres. Insects are so tenacious and can live out their complex lives in such small slices of habitat that they survive here long after the open fields and wooded hillsides have disappeared. You can find insects almost anywhere in most cities, but some of the better places to look are the ravines, the cemeteries, and the parks, especially those where the natural underbrush has not been replaced by manicured lawns. Weedy, vacant lots are another favourite insect-watching spot of mine, as well as the railroad right-of-ways where good healthy growths of vegetation predominate.

And if you live in a part of the city where there are back lanes behind the houses, going down between rows of garages on either side, you'll find that these too are a fruitful insect habitat. These lanes have plenty of tall leafy food plants with flowers and abundant hiding places for insects. During most of the summer you are certain to see a white cabbage butterfly or two, flitting from flower to flower, perhaps laying an egg on a leaf or dancing by twos, ten or fifteen feet above the ground in mating flight. In a few weeks' time, the inspection of wild mustard or even a backyard cabbage plant will reveal the presence of inch-long, green cabbage caterpillars. Look more closely at the wild foliage; here a green-and-yellow-striped beetle — there a bumblebee, who looks to be savagely attacking a spray of white flowers.

The garages are scarcely a sterile environment, for up under the projecting eaves one can spy the naked paper comb of the bumbling, brown paper wasp. Buzzing along in slow weaving flight, hind legs hanging



A resting, male sulphur, one of the common species whose colour probably inspired the common name "butter"-fly. (Photo: Walter Plath)

down conspicuously behind the body, the female paper wasps trundle back and forth to their small nest, bringing captured insects to the developing grubs within. Paper wasps are not particularly aggressive and are unlikely to sting, and watching the drama of their summer life unfold can provide hours of enjoyment.

Get down close to the ground next. Tip over that wooden plank. Look quickly as you lift, for the denizens of the damp soil habitat beneath hate the sunlight and scurry to escape it. Many-legged centipedes (a close relative of insects) disappear almost instantaneously as they throw their bodies into S-shaped curves. Shiny black ground beetles scuttle furiously out of the way, and a bevy of little isopods (not really insects but related more closely to lobsters) scurry around in confusion as they try to escape from the light.

Now that you are down on your hands and knees, how about a look at a really sterile environment — a front lawn with the grass cut and the flower garden neatly cultivated and weeded. At the very least, there are sure to be ants carrying bits of plunder — tiny parts of insects and seeds picked up on their constant foraging expeditions around the lawn. Some of them are climbing up the rose bush, and there seems to be a good deal of activity near the tips of the branches. On closer inspection, you find that the tender green shoots of the rose seem almost coated with tiny green aphids, some winged, some wingless, each of them with its sharp beak inserted into the plant, pumping out its juices. The ants run over the aphids, now and then tapping one on the back and receiving in exchange a drop of sweet nectar or honeydew secreted by two glands on the aphid's back. In return for these

The woolly-bear caterpillar is a familiar urban harbinger of autumn. It is the immature stage of the elegant black, white, and gold Isabella Moth. (Photo: Walter Plath)

Top: Toronto's grandest insect inhabitant—the Cecropia Moth. (Photo: W. Aubrey Crich)

Above: A bright green halictid bee rests in the chimney entrance to its underground burrow. These insects are important in pollinating garden plants. (Photo: D. Barr)

Right: Red-Legged Grasshoppers abound in most weedy lots and landfill sites. (Photo: D. Barr)

Left: Extensive aphid colonies flourish on many city plants, where they are frequently protected from attack by guardian ants. (Photo: D. Barr)

Below: A butterfly egg, this one belonging to the shy, ravine-dwelling Question Mark, represents the minute beginning of life for all urban species. (Photo: Walter Plath)

favours, the ants savagely guard their aphid cows against their enemies — other city-dwellers such as lady beetle adults and larvae, lacewings, and parasitic wasps.

Back on the ground, you may spy a small chimney structure about an inch high and a quarter inch wide at the top. Made up of tiny balls of mud welded together into a strong turret, it sticks up about as high as the longest blades of grass. If you lie down to get it at eye level and stay quietly for a few minutes, you will soon see a bright green streak approach the turret, hover briefly, then pop down inside almost faster than the eye can follow. Later, if you watch the hole intently, you may see a bright, metallic-green head emerge to observe the surroundings briefly. Then, quickly, a shining green bee pops out and takes off again on its rounds of gathering pollen for the larvae housed in the underground chambers of its burrow. I have watched these halictid bees fly back and forth from the burrow regularly, every few minutes, from about 10:00 a.m. through to about 1:00 in the afternoon. Before this it is presumably too cool for activity to start, and later the bee wisely takes it easy, underground in its cool chamber, during the hottest part of the day.

There are few places in this or any Canadian city where insects are not living with us, on their own terms with the environment, and doing just as well as the human population. But seventy-five years ago things were even better. Toronto's High Park, for instance, was wild parkland and one of the best insect collecting sites in the city. E.M. Walker, a pioneer Canadian entomologist and the founder of the ROM's research collection of insects, spent many a happy hour observing and collecting the fascinating fauna in High Park. He reported several rare species of grasshopper as well as the usual butterflies, dragonflies, beetles, and bugs. Walker gained most of his early familiarity with insects by collecting in the city alone, the prelude to a long and productive career. Today, High Park has been cut, trimmed, and civilized, and while insects still live there, they are only the most common and readily expected kind. Even the tiny, temporary spring ponds where I collected freshwater creatures only thirteen years ago have been filled, drained, and converted into sterile, concrete-lined ditches and tiled fountains.

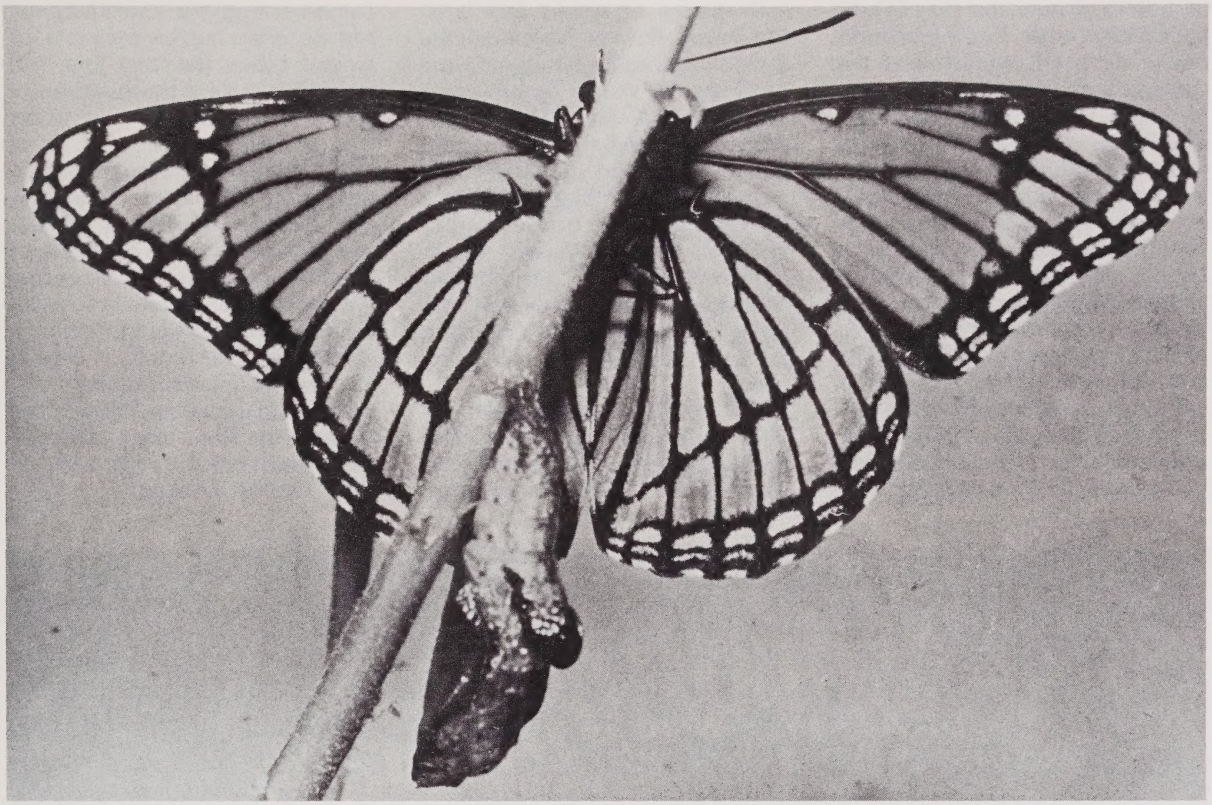
Toronto, in fact, is not nearly as well off as many other urban Canadian centres. London, Ontario boasts a marvellous sphagnum bog within its city limits, where many unusual insect species can be found. Some cities have natural parks with plenty of weedy plants and wild undergrowth still offering homes and food for a host of insect species. Most Ontario cities are still close to outlying tracts of field and woodland, water and fresh air. And all have a thriving insect fauna.

But in some respects Toronto's history in High Park is a model of every city's experience with the animals that live within its borders. As more and more of the specialized habitats are cut down, weeded, paved, and beautified, the whole animal fauna changes. First to go are the larger species, the birds, mammals, amphibians, reptiles, and fishes. By and large, these animals require large patches of undisturbed environment to carry out their lives. Later on, however, the insects too become affected, and as deterioration of the environment continues, the fauna gradually changes.

This very sensitivity to almost imperceptible environmental changes means that insects can be a valuable indicator of the state of health of our urban environment. Insect collections, protected through many years in a city museum, can document the slow but inevitable changes in the species that live successfully amidst our civilization. When these are studied carefully, it is not hard to tell when change has gone too far. Yet by watching the insects that can live in cities, we should also be able to see the effect of renewing the urban environment, of reducing pollution, and of increasing the amounts of open green space so essential to the lives of our wild neighbours as well as to ourselves.

At the Museum, it must be admitted, we also see a good deal of the seamier side of urban insect life. There is no doubt that almost every building inhabited by man will be shared as well by some kind of six-legged guest, usually unwelcome. Cockroaches are here — sometimes in numbers — and in some parts of the city termites infest wooden structures, slowly attacking them from within. Almost every home has had a carpet beetle or saw-toothed grain beetle at one time or another, and most of us are familiar as well with silverfish, house centipedes, and a variety of different species of flies that always manage to sneak in past screens and closed doors during the summer.

During the last few summers we have received increasing numbers of calls about the elm leaf-beetle. These small, harmless, yellow-and-green-striped beetles do no harm at all to humans or their dwellings, but come indoors in numbers in the fall, looking for a place to spend the cold winter months. Through cracks and ventilators they crawl, settling down in attics and between walls to await winter's passing. When awakened by the first warm days of spring, the beetles begin to move out, but seemingly confused by their strange surroundings, they cannot immediately find their way out of doors. Instead, they enter rooms throughout the house and congregate near windows, frantically seeking their freedom. Like the great majority of the insects found in our homes, the elm leaf-beetle is little more than a bothersome nuisance. None of the common pest species are difficult to control or need be a source of alarm for any householder. There are several branches of city and provincial governments, which, along with the Museum, are happy to give information on the control of any of these pests. And since they form such a small percentage of the insects living in the city, I'll waste no further time on them here.



The Viceroy inhabits city and countryside alike. Though it is no close relative of the Monarch, this species mimics that familiar large, orange butterfly, which is distasteful to birds. (Photo: Walter Plath)

Of much greater delight to most of us is, for instance, the Mourning Cloak, a large velvety-brown and yellow butterfly that first gladdens the hearts of snow-weary city dwellers in April. It hibernates under loose tree bark or in other protected spots over winter and so is among the first living creatures on the wing when only the trees are in flower and patches of snow still lurk in shaded ravines. An equally exotic sight is the gloriously golden Question Mark butterfly, normally thought of as a shy woodland species, that can also be seen flitting about city gardens close to wooded ravines and parks.

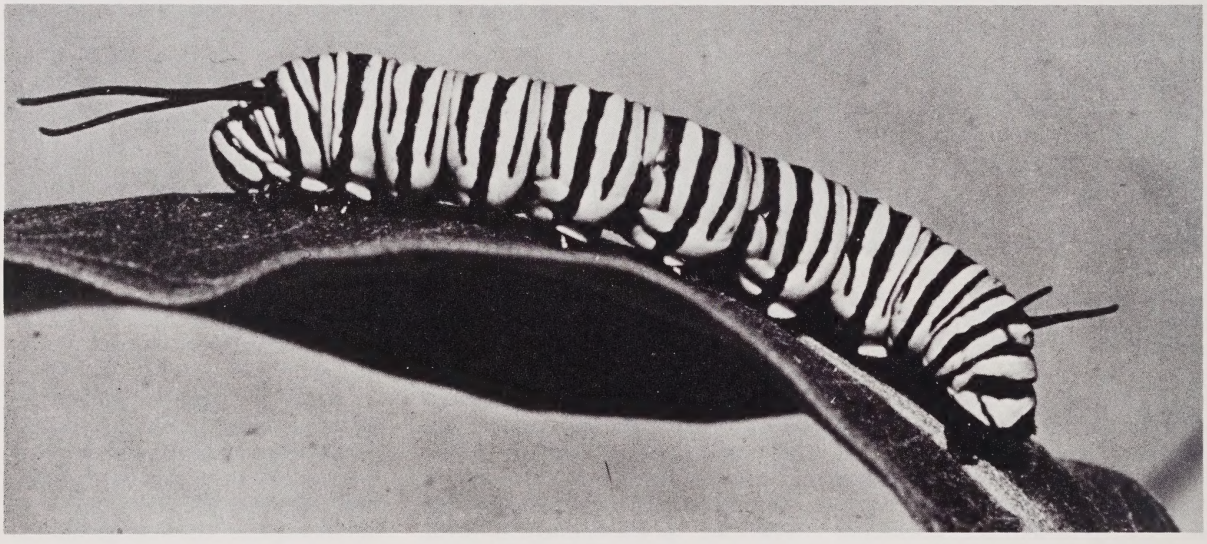
The Monarch butterfly is among the most familiar of city-dwelling insects. This species normally lives and reproduces in the city, and in late summer unusually large numbers congregate here. The Monarch is a migratory insect and as the days grow shorter in late August, adults that have hatched from the chrysalis north of the Great Lakes begin to make their way slowly southward. By the time they reach the city, they are ready to settle down one night before taking up the long flight across Lake Ontario. At these times one can find the Monarch hanging in great masses in some of the old Black Willow trees along the lakeshore. In Toronto, Cherry Beach is a good place to look for Monarch trees in late summer. Canadian writer Gregory Clark once called the Museum in late summer to report swarms of Monarch butterflies passing by his hotel room window. In years when the Monarch population is heavy, these great orange-winged butterflies sailing through the downtown streets are one of the more exciting views of insects in the city.

The greatest numbers of insects, however, are those we seldom see. Most of them live in the soil and some are so small they are impossible to spot even when you know they are there. Let's take ants as just an example. If the average ant colony contains 5,000 individuals (a conservative estimate by most accounts), then the average front yard has an ant population of perhaps 100,000 individuals. A little simple multiplication shows that the ant population of the average city block alone is already greater than the entire human population of the city. And what about the springtails? These tiny, primitive, hopping insects occur in every handful of garden soil and even in most flowerpots kept in the house. Perhaps 50,000 springtails inhabit every square yard of soil; so again, the population figures for an entire city are astronomical.

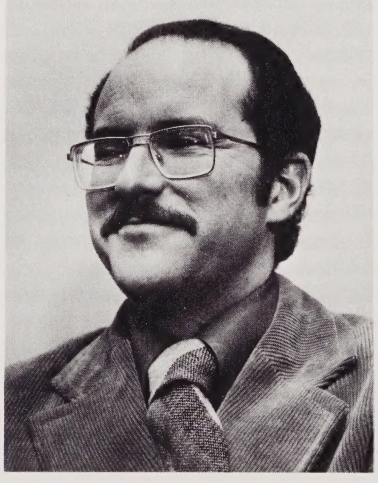
The insects evidently outnumber

us, but it's obvious that they fit into the smallest areas. Just the bits and pieces of city left over between the concrete and pavement are enough to shelter, feed, and rear incredible multitudes of six-legged lives. On one of their impromptu field collecting expeditions to the landfill site at the foot of Leslie Street last summer, the staff members of the Department of Entomology and Invertebrate Zoology were faced with a graphic demonstration of the size of the urban insect population. The area is covered with acres of grasses and weeds and abounds with a variety of insect species. At least four different types of butterflies were on the wing, and we collected several species of wasps and bees. Goldenrod flowers harboured the camouflaged ambush bug and were continuously visited by hoverflies and bluebottle flies. We saw the sand wasp using a pebble to tamp down soil around its burrow and captured brilliant blue damselflies carrying tiny, red parasitic mites hatched from a marshy pond. Grasshoppers and leafhoppers bounded by dozens into the air, and every few sweeps of the collecting net captured hundreds of specimens.

The activity at Leslie Street has died down now beneath the rigid, icy mantle of winter, but the insects are still all out there somewhere. Some rest as eggs in a weatherproof egg-sac. A few burrow deep into the ground below the frost line, and others hibernate as larvae, pupae, or adults in sheltered spots under logs, in trees, or beneath a bit of bark. But they will all be back again this spring. By the end of the summer the city's six-legged inhabitants will again reach a crescendo of numbers and varieties to delight the eye and provide abundant food for the mind. In the meantime, one can still see insects in the city — even in the dead of winter. Eternally colourful and fascinating, insects from Toronto and from many lands are always on view for visitors to the Royal Ontario Museum.



This Monarch Butterfly caterpillar feeds and grows in the city and metamorphoses in late summer into the familiar orange adult that migrates south for the winter. (Photo: Walter Plath)



Although David Barr officially joined the ROM in 1968, his association with the Museum dates back to 1962, when he was an undergraduate student assistant in the Department of Entomology and Invertebrate Zoology. He is co-author of a Museum handbook of Ontario crayfishes, and his current interest is the classification and evolution of water mites. As an avocation, Dr. Barr writes in a popular vein about creatures without backbones and photographs them as well. He hopes to introduce more people to these amazing animals that outnumber all vertebrate species by nine to one.

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